

### **REMARKS**

The Amendment filed on August 30, 2010 has been entered by the Examiner. Claims 1-3, 5-13, 15-33, 35-39 and 41-42 are pending in this application.

The previous claim objections under 35 USC 112, second paragraph and under 35 USC 101 have been withdrawn.

#### **Claim Rejections – 35 USC 102(b)**

Claims 1-3, 5-10, 35 and 37 are rejected under 35 USC 102(b) as being anticipated by de la Cuadra (US 2003/0224100). This rejection is traversed.

The 102 rejection will be commented upon with reference to the following independent claims:

- product claim 1, relating to tomato products, from which claims 2-3 and 5 depend,
- product claim 6, from which claims 7, 35, 37 and 9-10 depend, relating to the tomato products of claim 1 in admixture with foods, and
- product claim 8, relating to sauces comprising the tomato products of claim 1.

The rejection seems to be substantially based on the following issue, which is that both the water content of 17.5% of Example 2 of de la Cuadra ('100) and the ratio of soluble solids : insoluble solids of 1.0:0.7 of the thick + thin stream mixture of this Example fall within the limits of present claim 1 (first three lines of page 3 of the Office Action, hereinafter "OA").

It is to be noted that the water content of the tomato mixtures of the de la Cuadra '100 reference (Cuadra) can be calculated when both of the water contents of the thick and thin streams are known. The Cuadra reference reports at paragraph [0034] the water content (7%) of the thick stream, but it does not disclose that of the thin stream.

We observe that in the Cuadra reference, not only the water content, but also the percent amount of the dry residue in the thin stream is not disclosed. Had the value of the latter parameter been available, the water content of the thin stream could be calculated from the difference between the total weight and the % amount of the dry residue.

Although both the water content and the dry residue are unknown, one skilled in the art could as well be able to calculate the water content of the thin stream by adding the amount of soluble tomato solids to the amount of insoluble tomato solids of the thin stream. Since the sum gives the dry content of the thin stream, having available the insoluble solid amount, the above mentioned difference could be evaluated for the thin stream of the examples.

At paragraph [0035] the value of 30 Brix for the thin stream can be determined. From this factor, one skilled in the art knows that the thin stream comprises 30% soluble solids. However, from paragraph [0012] of de la Cuadra, one skilled in the art knows that the thin stream is rich in soluble tomato solids, and that, therefore, it contains also insoluble tomato solids. However, in the examples of the Cuadra et al reference, no mention is made of the insoluble solids content of the thin stream.

Therefore, in view of the disclosure of de la Cuadra, one skilled in the art would not be able to know the water content of the mixtures of thin stream + thick stream used in Examples 1, 2 and 5 of Table 1 since from the reference the water content of the thin stream is not known.

It appears instead that in calculating 17.5% of water in the mixture, a thin stream + thick stream of Example 1 in the above document, the Examiner did not consider that insoluble solids are instead present in the thin stream, and therefore that the water content of the thin stream cannot be merely the difference between 100% of the thin stream – 30% (soluble solids of the thin stream).

The Applicant in the past Response has shown by calculations that insoluble solids are indeed present in the thin stream. In fact, even admitting, *arguendo*, that the thin stream is made of soluble solids only and the thick stream of insoluble solids only as noted by the Examiner, it is

not possible to obtain the ratios of soluble tomato solids/insoluble tomato solids listed at the bottom of Table A of de la Cuadra et al.

In fact, the Applicant's calculations show that according to the Examiner's assumption above, the values of the ratios are from about 1/10 (Example 1) to about 1/100 (Examples 2 and 5) lower than the corresponding values reported by de la Cuadra. See pages 16 and 17 of the Applicant's response filed on August 30, 2010.

Therefore, present claim 1 is novel versus de la Cuadra, since the reference does not disclose the dry solids content of the presently claimed tomato products.

Claims 6 and 8 are novel since the compositions include the novel tomato products of claim 1.

Therefore, it is the Applicant's position that the Examiner should indicate where de la Cuadra states that the insoluble solids in the thin stream are absent. We remark that the novelty of a claim cannot be attacked by interpreting the disclosure of a document, as the Examiner is doing. The Applicant has already shown, see above, that the Examiner's interpretation of paragraphs [0034] and [0035] of de la Cuadra is not correct since the ratios of soluble tomato solids/insoluble tomato solids of the mixtures of thick stream + thin stream used in the examples are not verified.

Therefore, the novelty of claims 1-3, 5-10, 35 and 37 should be acknowledged and the rejection of the claims should be withdrawn.

#### **Claim Rejections – 35 USC § 103(a)**

Before commenting on the Examiner's rejection based on obviousness, we wish to summarize the gist of the present invention.

In the background of the present invention, it is stated that tomato concentrates, in particular those having a dry residue content of 36% by weight, on the market in Italy and known as “triple concentrates”, have high saucing power. However, this property is of no practical use owing to the strong taste of these compositions. Therefore, these tomato products need to be diluted before use. However, in this way, the advantage of the high saucing power is lost. If a semi-concentrate at 12% is used, this generally does not need dilution for the problems of unpleasant taste as the more concentrated preparations, wherein the saucing power is very low (page 2, bottom lines of the Specification to page 3, top paragraph).

Also tomato passatas, which have a dry residue of about 5%-7%, have a very low saucing power.

Therefore, teachings from the prior art are not available to provide a tomato product having both a high saucing power and good organoleptic properties.

The gist of the present invention was to have available a tomato product having the following combination of properties, with respect to the commercial tomato products:

- improved saucing power, i.e., an improved capability of the tomato product to stick to foods (see the Specification at page 2, 3<sup>rd</sup> full paragraphs, 3<sup>rd</sup> sentence), combined with
- improved organoleptic properties (page 2, paragraph 2), i.e., without a caramel taste, a bitter taste, a “cooking” aroma and a sour taste, and also
- improved preservation power meant as improved shelf life of the tomato product (page 2, paragraph 2).

The solutions found by the Applicant are the tomato products according to claim 1.

**Claims 11-13 and 27-28 are rejected under 35 USC 103(a) as being unpatentable over de la Cuadra et al. (US 2003/0224100).** This rejection is traversed.

The rejection of claims 11-13 will be commented upon in relation to independent product claim 1, since claims 11-13 relate to compositions comprising foods and the tomato products of claim 1.

We observe that de la Cuadra does not disclose or suggest tomato products having the above-reported combination of improved properties. This reference, in fact, is silent both on the saucing power on foods and on the preservation power of tomato products.

Therefore, one skilled in the art does not find in this prior art document any motivation for arriving at the solution of the technical problem of the present invention, as represented in pending claim 1.

Claims 11-13 are non-obvious versus de la Cuadra since they depend on claim 1, which has been shown to be non-obvious versus the same reference.

As to the citation of claims 27-28, we note according to the statement reported at page 4, bottom paragraph of the OA, that they should instead correspond to claims 28 and 29, respectively.

Claim 28 is an independent claim relating to a method of improving the saucing power of foods which comprises admixing the foods with the tomato product of claim 1.

Claim 29 is an independent claim relating to a method of using a condiment on foods which comprises admixing foods with the tomato products of claim 1.

We note that claim 28 is non-obvious versus de la Cuadra since in the reference, as noted above, there is not even a hint as to the saucing power of tomato products. Therefore, it was not

obvious that by using the tomato products of the present invention the saucing power of foods on tomato products would be improved.

The de la Cuadra reference is so broad that it also covers compositions, such as tomato passatas, that from a practical point of view do not have a significant saucing power.

The Applicant has found another property of the particular class of tomato products of claim 1, i.e., the saucing power as defined hereinabove.

The Applicant is not aware whether the compositions of de la Cuadra show saucing power, since de la Cuadra, as said, although very broad, is silent on saucing power.

Therefore, claim 28 should be allowable, since in the de la Cuadra reference there is not even a pallid hint that the tomato products as defined in claim 1 would show this property, i.e. the saucing power.

Claim 29 is non-obvious versus the Cuadra reference on the same grounds as claim 28.

**Claim 36 is rejected under 35 USC 103(a) as being unpatentable over de la Cuadra et al. (US 2003/0224100) in view of Gourmet ("Low country Aioli")** This rejection is traversed.

Claim 36 relates to the composition of claim 6, in particular to a mixture of tomato products of claim 1, wherein the food is mayonnaise. For the non-obviousness of this claim the same comments made for claims 11-13 can be repeated.

**Claims 15-27, 30-33 and 39-42 are rejected under 35 USC 103(a) as being unpatentable over de la Cuadra et al. in view of Succar (WO 03/024243).** This rejection is traversed.

The obviousness rejection of the above claims is commented herein with reference to the following independent claims:

- Process claim 15, from which claims 16-27, 30 and 41 depend (claim 40 has been deleted). Further, as the features of claim 15 are included in the independent process claims 31-33, the Applicant's comments on the non-obviousness of claim 15 will hold also for the latter claims.

- Product-by-process claim 42 relating to a tomato product obtained according to the process of claim 15.

We note a further advantage afforded by process claim 15, besides that of yielding the tomato products of claim 1 with the above combination of properties, i.e., that during the preparation of the tomato products no alteration of carotenoids occurs, as happens during the preparation of commercial tomato products by using the conventional processes of the prior art (page 14, paragraph 2 of the Specification). Carotenoids, in particular lycopene, have a high nutritional value, see page 2, paragraph 1.

Therefore, the process of the present invention is advantageous also for providing tomato products wherein carotenoids are not degraded and that, therefore, have the above nutritional properties.

In de la Cuadra, there is not even a hint concerning the issue of carotenoid alteration during the processing of tomatoes. Therefore, this reference not only does not mention or suggest the combination of properties desired for the tomato products of the present invention, but also it is silent on the issue of the nutritional properties of the tomato products.

We remark that in view of de la Cuadra it is surprising and unexpected that under the conditions adopted in independent process claim 15 it could be possible to obtain tomato

products having the above combination of properties. This means that claim 15 is not obvious versus de la Cuadra.

Therefore, dependent claims 16-27, 30 and 41, as well as independent process claims 31-33, are not obvious over this reference.

At page 6, lines 7-11 of the OA, the Examiner states the following about the differences between the process of independent claim 15 and that of de la Cuadra:

“While de la Cuadra et al. disclose concentrating the serum stream, the reference does not disclose concentrating the recovered pulp or pulp stream. Further, while de la Cuadra et al. disclose that the thin and thick streams are separated by mechanical separation ([0035]), the reference does not explicitly disclose that the starting tomato base is maintained under a slow stirring” (page 7, top paragraph of the OA)

We remark that in de la Cuadra there is not even a hint not only with respect to the stirring during the separation step as reported by the Examiner, but also to using a filtration process for obtaining tomato products

As to the further teaching of the de la Cuadra reference to carry out the step of serum concentration, and the step of recombination of concentrated serum with product (b) rich in insoluble tomato solids (paragraphs [0013] and [0014]), we note that in present process claim 15 both steps are not required in order to obtain the tomato products having the above combination of properties according to the present invention.

Therefore, the process of independent claim 15 of the present invention not only allows obtaining tomato products having a combination of properties never suggested in the cited prior



art, but it is also more advantageous than that of de la Cuadra since it comprises fewer steps, the concentration of serum and the recombination steps not being necessary. As a matter of fact, in process claim 15 they are optional steps.

In the OA the Examiner cites Succar in order to fill the gap between de la Cuadra and the process of the present invention, i.e., for the missing feature of low stirring.

The obviousness rejection in view of the prior art combination is the following:

“...it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a decanter that rotates (i.e., stirs) the tomato material during separation, as taught by Succar et al., in the process of de la Cuadra et al. because doing so would amount to nothing more than the use of a known mechanical separating device for its intended use in a known environment to accomplish entirely expected results.” (page 7, lines 7-11 of the OA).

We note that in the Succar reference, the separation of the tomato mass starting from tomato juice operated by the decanter is described as follows, with reference to Fig. 4:

“...Juice 132 is provided to the decanter 135 through the input 420. As the decanter rotates, the thicker cake portion is separated from the serum section. The cake portion gravitates to the inner surfaces 402 of the centrifuge body 400. The less dense serum portions remain in the general middle area of the decanter...”

The weir 430 can be an interior wall or ring with an inner aperture 431. The weir serves as a wall to hold the cake and block it from exiting through the serum outlet 440. Thus, the weir separates the cake and serum portions and permits the less dense, thinner serum 140, to pass through the decanter through the serum outlet 440...

More specifically, the cake can be "scraped" off the inner surface of the rotating centrifuge bowls by, for example, a rotating scraper or auger 460 (partially illustrated in Figure 4).”

Therefore, in a decanter the separation of the cake portion from the serum portion of tomato juice takes place by applying a centrifugal force to provide that the cake portion

gravitates to the inner surfaces 402 of the decanter, while the serum remains in the middle area of the decanter and exits through the serum outlet 440.

Therefore, in Succar there is not even a hint of a solid-liquid separation process wherein the tomato mass is filtered under slow stirring. Succar uses a separation process different from filtration.

As to the further Examiner's statement that it is the decanter that stirs the tomato mass, it is noted that one skilled in the art, even combining this technical feature of Succar with the process of de la Cuadra, is not motivated to use the slow stirring operated in step a) of the present invention for the following reasons:

- In the reference combination, there is no teaching or suggestion that in the separation by filtration as in step a) of process claim 15 of the present invention, a rotational speed equal to or lower than 20 rpm would be used.

- In the present specification, it is reported that in the separation step of the claimed process, a compact mass is formed on the filter which does not stick to the filter and which can be easily recovered, as no occlusive layer is formed on the separator walls (page 8, bottom lines of the specification).

This is surprising since it is different and unexpected in view of the separation step of Succar, wherein, on the contrary, the cake portion gravitates to the inner surfaces of the separator, so that scrape-off is used to recover the cake.

Therefore, present claim 15 is non-obvious over the combination of de la Cuadra and Succar.

As a consequence, dependent claims 16-27, 30 and 41, and independent process claims 31-33, are non-obvious with respect to the combination of references cited by the Examiner.

At page 7, paragraph 2 of the OA it is stated that it would have been obvious to one of ordinary skill in the art at the time that the invention was made to have concentrated the thick stream of de la Cuadra et al. to recombine with a concentrated thin stream for the purpose of making a thick tomato paste product.

The same as stated above can be repeated: the recombination step is not essential in order to obtain the tomato products with the desired combination of improved properties according to process claim 15 of the present invention.

The Applicant wishes in particular to comment on the non-obviousness of present claim 32, that provides for the addition of concentrated serum to the mass recovered on the filter, as taught by the above prior art combination

It is believed that this claim is also non-obvious as the prior art does not disclose or suggest the solid-liquid separation step a) of the process claims of the present invention.

At page 7, bottom paragraph of the OA for the obviousness of claim 17 the Examiner states that : "...Given that de la Cuadra et al. do not explicitly disclose a temperature in which the separation process is carried out, it can be assumed that the process is carried out at ambient temperature, i.e., room temperature (i.e., about 20°C)."

The Applicant notes that de la Cuadra is silent not only on the process temperature but also on the separation process to be used. It is noted that at paragraph [0035] of this reference it is reported that the thin and thick stream were obtained by mechanical separation. However, this is a general procedure for all of the processes that split tomato juice into fractions.

In conclusion, one skilled in the art cannot decide to use room temperature for carrying out a separation process that the reference does not disclose.

With respect to the issue that room temperature does not always represent the obvious choice for carrying out the fractionation of tomato juice by mechanical separation, it is enough to look at the teachings of Succar that when using a decanter, a temperature comprised between 180 to 190 degrees F is effective for the separation of the cake and serum portions.

This shows that, depending on the separation process, the temperature may also be different from room temperature.

At page 8, lines 2-7 of the OA the rejection for the obviousness of dependent claim 19 is set forth as follows:

“While Succar et al. teach a decanter that rotates, the reference (i.e., de la Cuadra) does not explicitly disclose that it rotates at a speed from 1 rpm to 20 rpm. Succar et al. teach that separation can be adjusted by varying the rotation speed of the decanter...the precise rotation speed would have been considered a result effective variable by one of ordinary skill in the art at the time of the invention.”

The Applicant has shown herein that the solid-liquid separation step performed in Succar has nothing to do with that used in step a) of independent process claim 15 of the present invention.

Therefore, the Applicant believes that it is not clear how one skilled in the art would consider as a result effective variable the rotation speed of the filtration process carried out in step a) that is completely different from the separation process operated in a decanter.

At page 8, paragraph 2 of the OA and at page 9, paragraph 2 of the OA, the grounds for the obviousness rejection of dependent claims 22 and 27, and of dependent claim 24, respectively, are reported.

The Applicant believes that said claims are non-obvious since they depend on process claim 15 which is non-obvious over the reference combination. The same can be stated for claims 25 and 26 (page 10, paragraphs 1 and 2 of the OA).

As to the obviousness objection for independent product-by-process claim 41 (page 10, paragraph 4), we remark that the claim is non-obvious over the cited reference combination since it comprises all the features of both independent product claim 1 and of independent process claim 15, which have both been shown to be non-obvious with respect to the cited prior art.

### **Response to Arguments**

The issue of the water content of the thick stream and thin stream has been dealt with hereinabove in commenting on Issues 3-4 of the Office Action.

At page 11, paragraph 1, last sentence, referring to the Applicant's calculations, the Examiner has stated that:

"Applicants attempt to show that if the thin stream comprised substantially of the insoluble solids and the thin stream comprised substantially all of the soluble solids, then the ratio of thin stream (dry weight) and thick stream (dry weight) should be proportional to the ratio of soluble tomato solids to insoluble tomato solids."

We remark that it is the same de la Cuadra reference that reports in Examples 1, 2 and 5 the ratios of soluble tomato solids/insoluble tomato solids.

Taking into account these ratios, it can be evaluated whether the Examiner's assumption that substantially all of the insoluble tomato solids and that substantially all of the soluble tomato solids are, respectively, in the thick stream and in the thin stream, is correct.

In fact, if the Examiner were correct from the available data of de la Cuadra on the content of soluble and insoluble solids, the ratios reported for each of the examples would be obtained.

The Applicant has however shown that it is not so, and therefore that the thick stream comprises also soluble solids and the thin stream comprises also insoluble solids.

In the following Paragraph 2 on page 11 of the OA the Examiner, referring to the hereinabove quoted sentence, has added the following:

“In this case, de la Cuadra et al. disclose tomato compositions wherein the ratio of soluble tomato solids to insoluble tomato solids ranges from 1.0:0.1 to 1.0:1.5.”

We remark again that de la Cuadra does not disclose the amounts of tomato soluble solids and tomato insoluble solids for both the thick and thin streams relevant to each of the tomato products of Examples 1, 2 and 5 that would allow the above ratios to be obtained. In any case, it does not seem clear why the ratio-soluble to -insoluble solids remain constant, as affirmed in the last sentence of Paragraph 2 on page 11 of the Office Action.

The issue on the teachings of de la Cuadra combined with Succar for the rotational speed has been already dealt with by the Applicant hereinabove in connection with Paragraph 9 in the present Office Action.

In view of the above comments and arguments set forth in this Response, it is believed that the present application is now in condition for allowance. Simply stated, there is no teaching, motivation or suggestion of the claimed invention under either 35 USC 102(b) or 35 USC 103(a). Therefore, favorable action is respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Raymond C. Stewart, Registration

No. 21066, at the telephone number of the undersigned below to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

Dated: May 11, 2011

Respectfully submitted,

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